January 24, 2006

To: Members of Natural Resources, Great Lakes, Land Use, and Environment Committee
From: William Tobler, Intercounty Citizens' Action Group

Honorable Representatives:

I wish to enter comment for your consideration of HB5366 and the related SB850 et.al. I regret that I cannot appear before you to personally present my comment. Attached are the slightly modified notes and handout that I presented on November 9, 2005 to the Senate subcommittee of Natural Resources and Environmental Affairs.

My view is that the proposed legislation is pathetically weak, especially considering the magnitude of the threats and proven realities of large water diversions. The citizens of northwestern Monroe County and southeastern Washtenaw County have suffered greatly from the health, social and monetary impacts of unregulated large water withdrawals, and also from NPDES discharges that greatly exceed permit limits in many aspects, and without any hope of MDEQ enforcement over the past 15 years.

For the 10 years from 1993 to 2003, the operations of one quarry exceeded its NPDES permit flow limitation by more than 6 million gallons per day (over 8 MGPD), and its NPDES limit (the maximum regulations allowed) on the total-dissolved-solids (TDS) pollutant by as much as 400%. The discharge contained poisonous and corrosive hydrogen sulfide as high as 18 million percent over the regulated maximum based on the company's own reports. Despite these gross permit violations, and accompanied by many citizen complaints, the MDEQ did nothing over these 10 years. The result was that several thousand families living in a 100 square mile area lost potable water in their homes 24 hours a day, 365 days a year for these 10 years, and without any alternatives available to them. The economic costs were staggering, easily exceeding 50 million dollars. The losses easily exceeded the gross revenues (revenues, not profits) enjoyed by the quarry company during these 10 years while they operated in violation of their permits.

This quarry ceased its operations after a successful Citizens' Suit under the Clean Water Act for 2,700 violations, all easily proven from the MDEQ file. Wells that had been dry for 10 years started returning within a month.

Now, this "happy ending" is about to be lost. In December 2005, the MDEQ renewed a permit to another local quarry (same company), and increased their discharge limitation from 144,000 GPD to 5M GPD. The permit has no limitations on TDS until 2009. Hydrogen sulfide "limitations" are 50,000% the maximum allowed by regulations until 2010. Only then are both pollutants scheduled to be controlled. This despite a long history of unenforced permit violations at this site for at least 10 years, and despite numerous dry-well complaints under the previous permit of only 144,000 GPD. The technology to control both pollutants is readily available, and based on the company's information

submitted with the permit, control of TDS would cost less than 0.1% of the wholesale cost of the stone. The claims made in the Antidegradation Statement are clearly not consistent.

During 2004 alone, the combined discharge of this quarry and a neighboring quarry INCREASED by 3 MGPD. Simultaneously with this increase, the USGS monitoring wells throughout the area now show a negative impact, and have started to decline again in 2005. The USGS report 03-4312 clearly concludes that the aquifer cannot sustain these large water withdrawals.

I urge this committee and the full legislature to aggressively pursue statutes to serve the citizens of Michigan and the environment from this unneeded abuse. The citizens of Monroe and Washtenaw Counties have waited a long time for action from Lansing. This is not an issue of jobs or competitiveness as several alternatives are available.

Sincerely,

William E Tobler

William E. Tobler
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Public Comment: November 9, 2005 to NATURAL RESOURCES & ENVIRONMENTAL AFFAIRS:
Senators Birkholz (C), Patterson (VC), Van Woerkom, Brater (MVC), and Basham

William Tobler 13555 Bunton Rd, Willis MI 48191 313-322-5202 williamtobler@critterswoods.org
Trustee, Charter Township of Augusta, Washtenaw County, November 2004 to present
Planning Commission member and secretary, 1980 to present
Ph.D. in Mechanical Engineering, Cornell University
Technical Leader, Ford Motor Co Research; 30 years of computer design and analysis of transmission/powertrain dynamics, hydraulic controls, electronic controls and creating simulation software tools
Environmental Interest: large water withdrawals, especially by quarry operations
I was principal plaintiff on successful citizens' suit for 2,700 violations of Clean Water Act by London Aggregates (LSA), Monroe County – this gave me 12 years of unwanted "quarry" experience

1) SB 850-852 - Not applicable to large water withdrawals from quarries
2) SB 850-852 – Too weak. Even **Limited applicability for protecting trout streams**. FO-210.04 includes Paint Creek in Augusta Township which is the last Trout Stream in Washtenaw County.

Trout stream = cold, clean water coming principally from underground seepage.
a) withdrawals from confined aquifers **excluded**; confined aquifers are often interconnected and also connect to surface water. Drying of wetlands, lands that are wet, ponds, and reduced streamflows at distances beyond 6 miles = impaired underground seepage; even reverse flow.
b) LSA's hydrogeology report showed effects of **sand mining** to extend beyond 2 miles; 1320 feet presumption to NOT create an adverse impact is inadequate
c) Stormwater = warm, dirty water ≠ healthy trout stream; inadequate Soil & Erosion enforcement on development = Sedimentation loads; findings of Stony Creek Watershed Project
d) Polluted NPDES discharge downstream impairs and/or disrupts spawning migration

Other Issues not Addressed by Proposed Legislation
3) Michigan critically needs Large Water Withdrawal legislation to protect residents' health and welfare, and to protect the environment for future generations. And not more "study", only.

4) London Aggregates (LSA) NPDES Permit

	Request/Actual	Max under regulations	Permit Limit	Actual
FLOW (discharge)	1.6MGD	Unique for each permit	2.2MGD	8 MGD
Total dissolved solids	250 mg/L	500 mg/L	500 mg/L	1500-2500 mg/L
Hydrogen Sulfide	100 ug/L	0.09 ug/L	No limit in permit	500 to 17,000 ug/L

LSA violated permit limits in the first month of operation in 1993.
MDEQ response to violations: let's study it for a year; then another; then another; .....
In 1996, MDEQ proposed to fix the problem by raising the Permit Limits to whatever it takes.

5) RESULT: Starting in summer 1993, 80 foot wells in the confined aquifer started to fail. By 1995, most mid aquifer wells in a 100 square mile region had gone dry 24/7. Several thousand homes had no alternative, legal water source for almost 10 years in 5 townships. Homes cannot be refinanced without a legal water source. Never mind the health and social impact.

6) In response to a plea for help: "There is no available scientific supportable evidence that the quarry discharge is causing area wells to go dry." Director Harding to John Dingell in 1996. See Figure 1. The Cause/Effect was confirmed by the USGS study 03-4312: "Hydrogeology and Simulation of Regional Ground Water Level Declines in Monroe County". "Increased pumping is the major cause of the observed decline", Jim Nicholas, USGS District Chief

7) Figure 2 shows balance of recharge and industrial consumption. LSA consumes the equivalent of 40 London Townships. Just 1/8 inch of recharge per year is sufficient for residential use

8) Figure 3 inescapably illustrates the pollution, but Michigan Government does nothing.

9) Some residents install illegal water tanks and have water trucked in. MDEQ responds by threatening to withhold revenue sharing from Monroe County until the lawbreakers are rounded up.

10) Some residents use illegal shallow point wells.

11) Remaining residents install deeper wells (120 feet) and bring poisonous and corrosive hydrogen sulfide into their homes. Other deeper wells go bad with hydrogen sulfide (like mine).

12) What are some of the consequences of hydrogen sulfide on humans and homes?
   a) Stinks – it is this feature that presumably makes H2S "safe", but not if you have no place to go.
   b) Poisonous – pools in basements; one breath and lose consciousness and die.
   c) Explosive – In addition, H2S is often accompanied by methane
   d) Inflammatory – irritates the entire bronchial system and especially bad for asthmatics. H2S in moist air is essentially sulfuric acid in your lungs.
   e) Corrosive to copper water pipes. In the 10 years that we've had H2S, I've had to replace most of the copper pipes in my home (with plastic), and all of the fixtures several times. A standard copper pipe alternately exposed to water and air will pin-hole in one year.
   f) Excessive copper in water is a health hazard and tightly regulated with municipal supplies: http://www.epa.gov/safewater/lcrmr/pdfs/qrg_lcmr_2004.pdf Lead and Copper Rule (LCR) 56 FR 26460 - 26564, June 7, 1991 Protect public health by minimizing lead (Pb) and copper (Cu) levels in drinking water, primarily by reducing water corrosivity. Pb and Cu enter drinking water mainly from corrosion of Pb and Cu containing plumbing materials. Reduction in risk of exposure to Cu that can cause stomach and intestinal distress, liver or kidney damage, and complications of Wilson's disease in genetically predisposed people.
   g) Corrosive to copper electric wiring and creates fire hazard, especially with heavy appliances such as an electric dryer or electric water heater. See Figure 4.
   h) Corrosive to refrigeration equipment, freezers, air conditioners, heat pumps. My first refrigerator lasted 17 years, but died just two years into the LSA experience in 1995. The replacement Maytag died in 1998, and again in 2001. The next replacement Maytag died in 2004, and failed again this past weekend (November 2005).
   i) Corrosive to all electronic equipment such as TVs, entertainment systems and computers. A three year life is typical.

13) All of the above (and much more) results because Michigan government chooses to ignore appropriate siting requirements, chooses to ignore enforcement of EXISTING regulations, and chooses to ignore regulation of large-water withdrawals from quarries.

14) London Aggregates ceased mining on December 24, 2002. A happy ending?
Wells started returning in some areas almost immediately as expected from Figure 1. But water quality remains poor due to the aquifer filling from "below", and from bubbling and underground agitation as the air is forced out of the once confined aquifer. See Figures 5, 6 and 7. However,

I hope that once the middle aquifer becomes confined again, that water quality will improve. But this hope is now threatened by new permits issued by the MDEQ in 2005.

15) Damage Dollars versus Business Dollars
LSA mined about 1 million tons of stone per year with retail value of about $5 per ton. Total=$50M gross over the 10 years of operation. Costs to the citizens and five townships easily exceeds this number. Augusta installed a partial municipal water system at $8M. London has tried to put together a proposal for around $20M. Exeter is developing a system. Also, Milan and Dundee Townships. My personal out-of-pocket cost is about $30K. If my costs are typical, then this times 2000 families = $60M. The damage dollars EXCEED the gross business dollars!

16) StoneCo Maybee NPDES Permit Renewal; Dec 2005 – increase withdrawal by 35 times!

	Request/Actual	Max under regulations	Permit Limit
FLOW (discharge)	5MGD	Unique for each permit	5MGD
Total dissolved solids	>1500 mg/L	500 mg/L	Unlimited for 4 years
Hydrogen Sulfide	500 ug/L typical	0.09 uq/L	45 ug/L = 500 times max

StoneCo has indicated their intention of deepening the quarry by 50% and significantly expanding onto new ground. This will not only increase their large water withdrawal requirement, but would be expected to lower the water table by a similar amount, about (30 feet). The 2002 discharge averaged 0.37MGD, mostly stormwater. The Responsiveness Summary indicates that the current 12 month average is 0.89MGD during a drought year (with a current permit limit of 144,000gpd). The permit allows additional discharge for stormwater.
Information was submitted showing that TDS control was both possible and affordable (<0.1%), yet the MDEQ waived the regulations for TDS and H2S. This is not about jobs. This is not about competitiveness. This is about willfully destroying the dreams of thousands of families.

17) At the same time, Holcim Cement in Dundee has also increased their discharge, and plan a 50% increase in quarry area (150 acres). In 2001, Holcim discharged about 1MGD. In 2004, this amount increased to about 3MGD. These combined recent increases of 3MGD is a result of the aquifer refilling. Both companies expect to significantly expand their operations and significantly increase their large-water withdrawal. The available data clearly shows that the effects of large-water withdrawals extends beyond 8 miles. Holcim's hydrogeologist submitted a study (with a straight face) claiming that their cone of depression would not extend beyond 4000 feet, yet Holcim's own monitoring wells clearly show the stop/start of LSA operations from 7 miles away.

18) The combined effects could easily exceed that of London Aggregates, and hence ALL of the attendant problems are expected to return. The initial effects are already seen in Figure 1 with the downturn of the aquifer refilling in 2005. There is still time for a HERO to emerge.

19) These problems exist because Michigan Government has failed to address a well understood issue for many years. These problems are NOT "Acts of God". Please develop and support statutes for large-water withdrawals including quarry operations.

William E Tobler

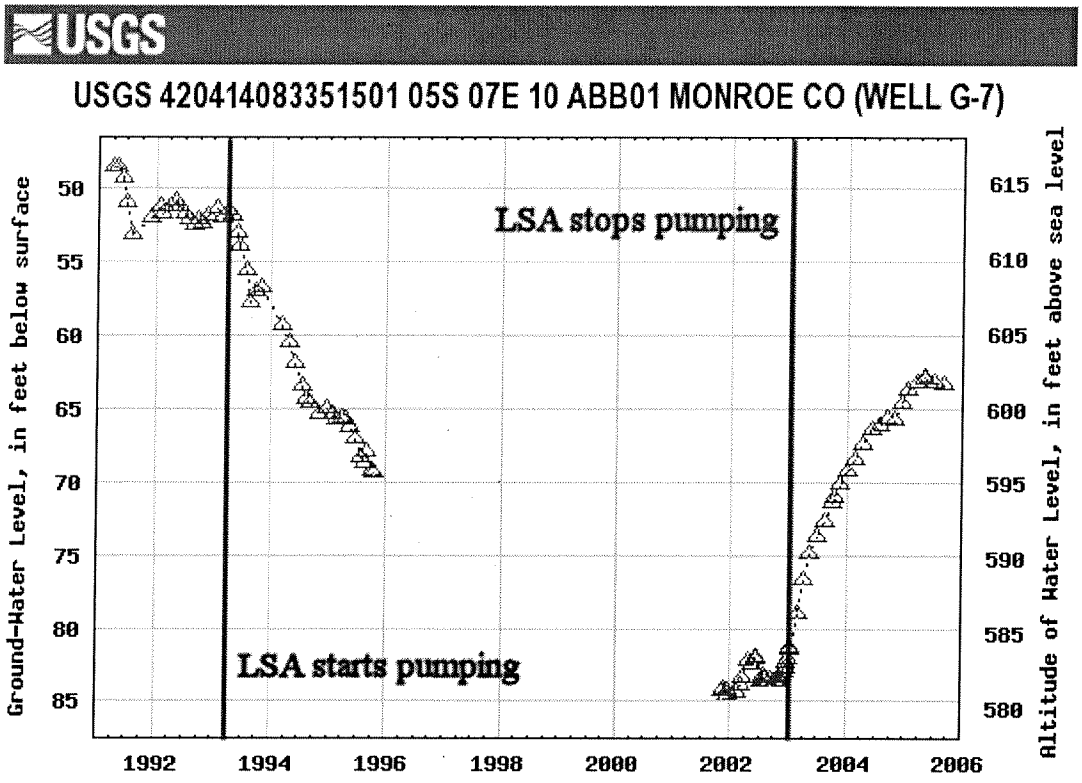

Figure 1 – One Mile from Quarry

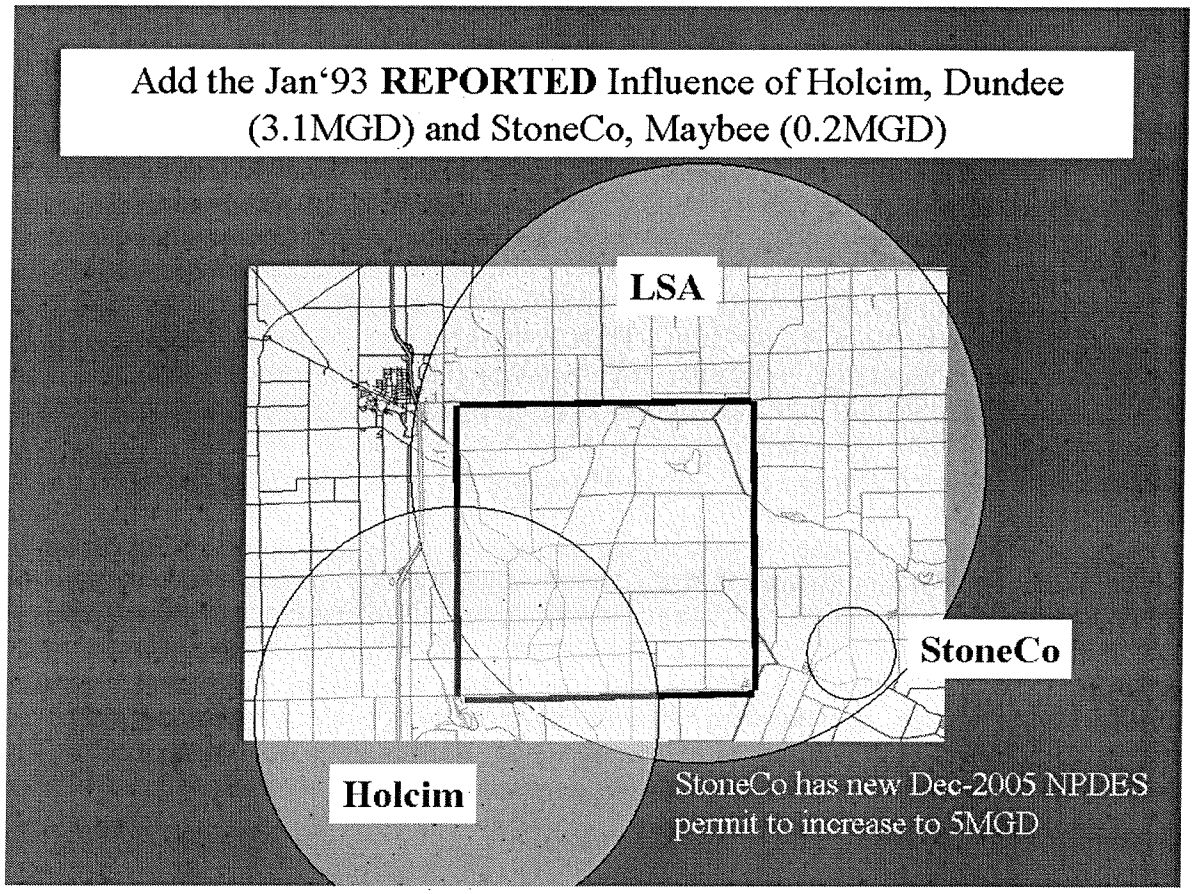

Figure 2 – Balance Areas between Consumption and Recharge where Industry consumes ALL of the water

NPDES Permit Boilerplate: "The receiving stream shall contain no unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits as a result of this discharge."

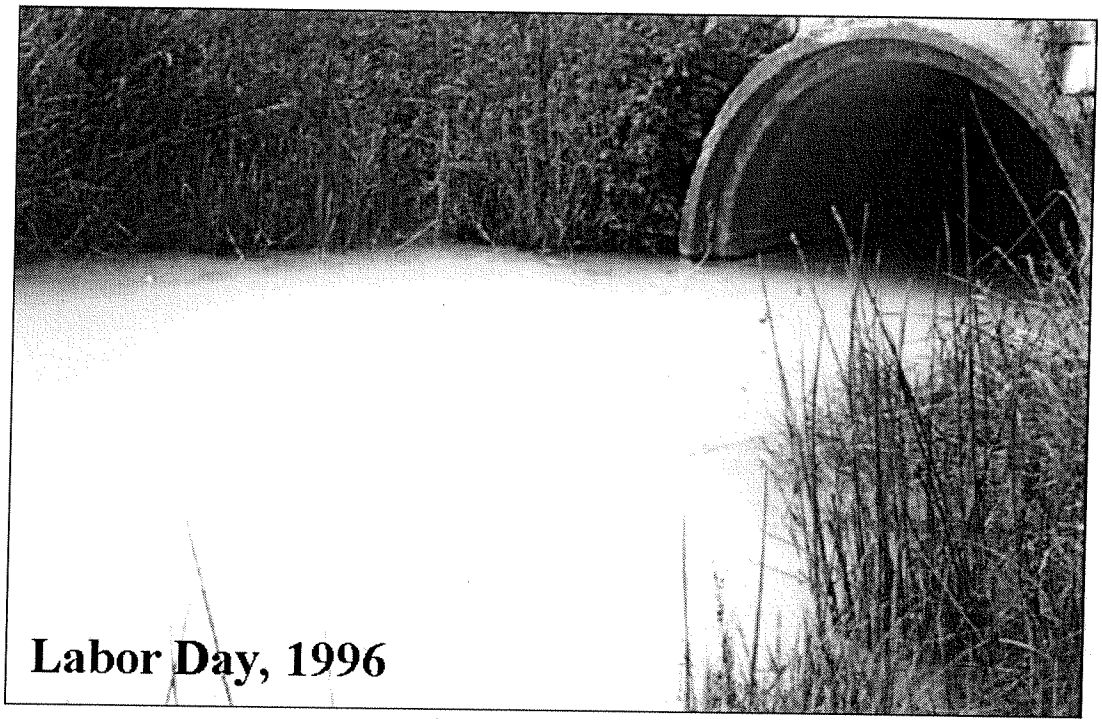

Figure 3 – Pollution is obvious. No need to "study" it. MDEQ staff refuses to return to site without protective gear because of the poisonous Hydrogen Sulfide. A concentration above 2 ug/L interferes with trout spawning.

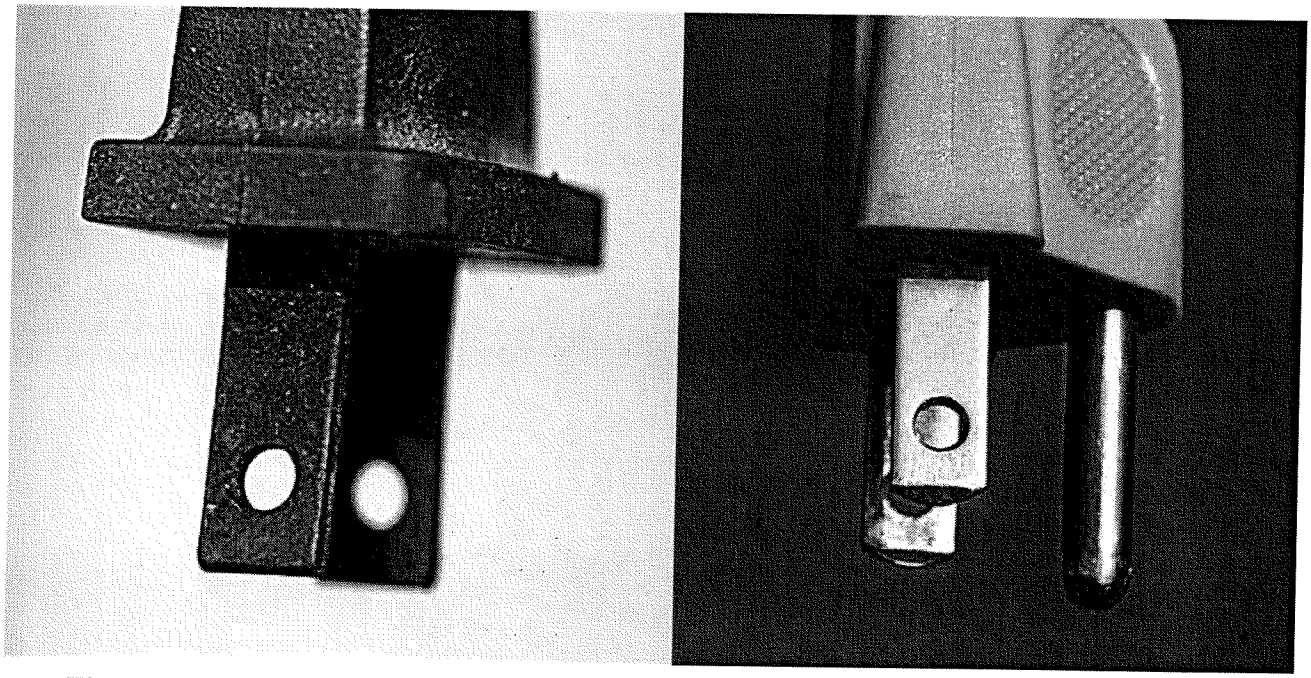

Figure 4 – Corrosive to wiring, switches, outlets, sockets, and plugs leading to electrical fires

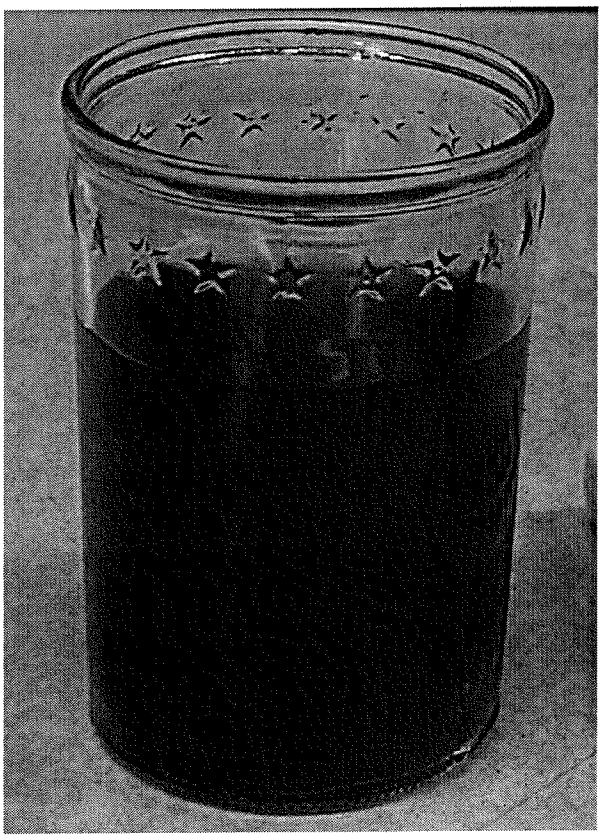

Figure 5 – Black Water

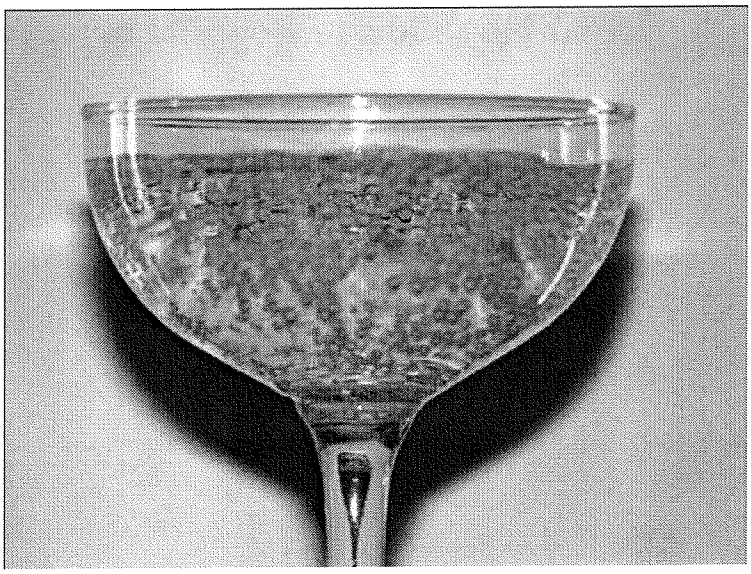

Figure 6 – Bubbling Water

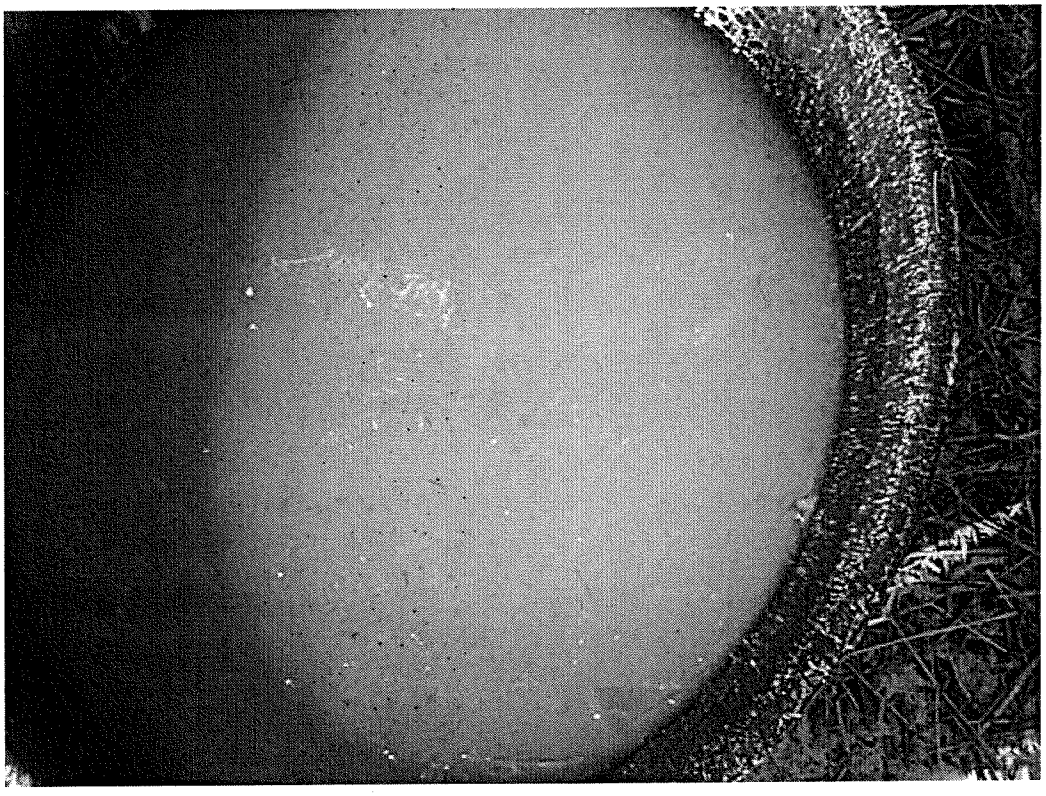

Figure 7 – White Water